

jc645 U.S. PTO
03/11/99

A/RE

Practitioner's Docket No. TF-2018-03-RE

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: March 11, 1999

Assistant Commissioner for Patents
Washington, D.C. 20231

REISSUE APPLICATION TRANSMITTAL

Transmitted herewith is the application for reissue of U.S.

☒ Utility Patent ☐ Plant Patent ☐ Design Patent
No. 5,609,938 issued on March 11, 1997

Inventor(s): Rodney M. Shields

Title: Image Display Apparatus With Holes For Opposite Side Viewing

Enclosed are the following:

1. Specification, claim(s) and drawing(s) (37 C.F.R. § 1.173)

- (a) ☒ 12 page(s) of specification and claims
☐ page(s) of claims
☒ 1 page(s) of abstract

NOTE: This must include the entire specification and claims of the patent, with the matter to be omitted by reissue enclosed in square brackets. Any additions made by the reissue must be underlined, so that the old and new specifications and claims may be readily compared. Claims should not be renumbered. The numbering of claims added by reissue should follow the number of the highest numbered patent claim. No new matter shall be introduced into the specification. (37 C.F.R. § 1.173).

CERTIFICATION UNDER 37 C.F.R. § 1.10*

(Express Mail label number is mandatory.)

(Express Mail certification is optional.)

I hereby certify that this Reissue Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date March 11, 1999, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number E403017685905, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Adam C. Brink.

(type or print name of person mailing paper)

Adam C. Brink.

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(Reissue Application Transmittal [17-1]—page 1 of 6)

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(b) ☐ 7 sheet(s) of drawing (drawings amended)

☒ Formal

☐ Informal

NOTE: "Amendments which can be made in a reissue drawing, that is, changes from the drawing of the patent, are restricted." 37 C.F.R. § 1.174(b).

☒ No changes in the drawings, upon which the original patent was issued, are to be made. Therefore, in accordance with 37 C.F.R. § 1.174(a), please find attached, in the size required for original drawings:

☒ a copy of the printed drawings of the patent.

☐ a photoprint of the original drawings.

☒ A letter requesting transfer of the drawings from the original patent file to this reissue application is attached.

2. Declaration and power of attorney

☒ 8 pages of declaration and power of attorney

3. Preliminary amendment

(check, if applicable)

☒ Attached

4. Offer to surrender the original letters patent in accordance with 37 C.F.R. § 1.178 is attached.

☒ Offer to surrender is by the inventor

☒ along with assent of assignee.

☐ Offer to surrender is by the assignee of the entire interest (and the reissue application does not seek to enlarge the claims of the original patent).

5. Letters patent

☒ Original letters patent are attached.

☐ Declaration that original letters patent lost or inaccessible is attached.

☒ A copy of the original printed patent is attached.

NOTE: "The application may be accepted for examination in the absence of the original patent or the declaration but one or the other must be supplied before the case is allowed." 37 C.F.R. § 1.178.

NOTE: "Where the original patent grant is not submitted with the reissue application as filed, patentee should include a copy of the printed original patent. Presence of a copy of the original patent is useful for the calculation of the reissue filing fee and for the verification of other identifying data." M.P.E.P., 6th ed., rev. 2, § 1416.

NOTE: "If a reissue be refused, the original patent will be returned to applicant upon his request." 37 C.F.R. § 1.178.

6. Petition to proceed without assignee's assent

☐ Attached hereto is a "PETITION TO PROCEED WITH REISSUE APPLICATION WITHOUT ASSIGNEE'S ASSENT".

A. ☐ The fee payment is authorized in the attached:

☐ "REISSUE APPLICATION TRANSMITTAL" Form

☐ "COMPLETION OF FILING REQUIREMENTS — REISSUE APPLICATION" Form.

B. ☐ Payment is authorized below.

7. Information Disclosure Statement

☒ Attached

☒ Copies of the IDS citation(s) is/are attached.

8. Priority—35 U.S.C. § 119

☐ Priority of application Application No. 0 / _____, filed on _____, in _____ is claimed under 35 U.S.C. § 119.
Country

☐ The certified copy has been filed in prior application Application No. 0 / _____ filed on _____.

9. Basic Filing Fee Calculation (37 C.F.R. § 1.16(h), (i) and (j))

CLAIMS AS FILED			
Number Filed	Number Extra	Rate	Basic Fee (37 C.F.R. 1.16(h)) \$760.00
Total Claims (37 C.F.R. § 1.16(i))	21	— 20 (and also in excess of total claims in patent) X \$18.00	18.00
Independent Claims 37 C.F.R. § 1.16(i)	2	— (number of inde- pendent claims in patent) X \$78.00	
Filing fee Calculation			\$ 778.00

NOTE: Multiple dependent claims are treated as ordinary claims for fee purposes. 37 C.F.R. § 1.16(j).

(Reissue Application Transmittal [17-1]—page 3 of 6)

10. Small Entity Status (if applicable)

NOTE: A new statement is required for the reissue, even if one has been filed in the original patent. 37 C.F.R. § 1.27(a).

WARNING: "Small entity status must not be established when the person or persons signing the . . . statement can *unequivocally* make the required self-certification." M.P.E.P. § 509.03, 6th ed., rev. 2, July 1996 (emphasis added).

- ☐ A statement that this filing is by a small entity is
☐ attached.

Filing Fee Calculation (50% of above) \$_____

NOTE: If a statement is filed within 2 months of the date of timely payment of a fee, then the excess fee paid will be refunded on request. 37 C.F.R. § 1.28(a). Effective April 1, 1984.

11. Additional Fee Payments

- ☐ Payment is being made for "PETITION TO PROCEED WITH REISSUE APPLICATION WITHOUT ASSIGNEE"
(37 C.F.R. § 1.17(h)) \$130.00

12. Total Fees Due

Filing Fee	\$ 778.00
Petition fee	\$ _____
Total Fees Due	\$ _____

13. Method Of Payment of Fees

- ☐ Enclosed is a check in the amount of \$_____.
- ☐ Charge Account No. _____ in the amount of \$_____.
- A duplicate of this request is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 C.F.R. § 1.22(b).

14. Authorization To Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☐ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. _____ :

- ☐ 37 C.F.R. § 1.16(a), (f) or (g) (filing fees)
☐ 37 C.F.R. § 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

- ☐ 37 C.F.R. § 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
☐ 37 C.F.R. § 1.17(a)(1)-(5) (extension fees pursuant to § 1.136(a)).
☐ 37 C.F.R. § 1.17 (application processing fees)

NOTE: "A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

NOTE: "Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

- ☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

NOTE: See 37 C.F.R. § 1.28.

15. ☐ Additional Enclosures



SIGNATURE OF PRACTITIONER

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patentee: **Rodney M. Shields**

Docket No: 2018-03 RE

Serial No: Not Yet Assigned
(Reissue of U.S. Patent No. 5,609,983)

Group Art Unit:

Filing Date: March 11, 1999

Examiner:

For: **IMAGE DISPLAY APPARATUS WITH HOLES FOR OPPOSITE SIDE VIEWING**

PRELIMINARY AMENDMENT

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

The following amendments and remarks are being submitted prior to the examination of this application for reissue.

In the Claims:

Please amend claims 1, 5, and 6 as follows:

1. **(Amended)** A one way vision display panel assembly specially constructed for [pressure sensitive] application onto a window of a building or vehicle, said one way vision display panel assembly comprising:

- a) a perforated panel assembly including:
 - i) a perforated transparent panel formed of a flexible plastic sheet material having a front surface and a rear surface;
 - ii) a perforated protective liner;

iii) [pressure sensitive] adhering means disposed between said front surface of said perforated transparent panel and said perforated protective liner for removably adhering said perforated transparent panel to said perforated protective liner so that said perforated protective liner can be peeled off from said perforated transparent panel to permit [pressure sensitive] application of said perforated transparent panel to a clear substrate;

b) said rear surface of said perforated transparent panel having applied thereon a first coating of light-reflective color bearing an image followed by a second coating of an opaque color sufficiently dark for absorbing light, wherein:

i) said perforated panel assembly appears substantially transparent when viewed from a first direction;

ii) said image is clearly visible when said perforated panel assembly is viewed from a second, opposite direction; and

c) a non perforated backing layer removably attached to said perforated protective liner, wherein said non perforated backing layer being effective to facilitate handling of said perforated panel assembly.

5. **(Amended)** A one way vision display panel assembly according to claim [54] 57 wherein said [pressure sensitive] adhering means comprises a layer of perforated transfer adhesive material.

6. **(Amended)** A one way vision display panel assembly according to claim 1 wherein said [pressure sensitive] adhering means comprises static cling properties provided to said perforated transparent panel.

Add claims 8 through 21 as follows:

8. A one way vision display panel assembly according to claim 1 wherein said adhering means is light absorbing.
9. A one way vision display panel assembly according to claim 1 wherein said first and second coatings comprise individual panels.
10. A one way vision display panel assembly according to claim 1 which further comprises a one way mirror layer.
11. A one way vision display panel assembly according to claim 1 wherein said first coating functions as a screen for receiving one or more projected images.
12. A one way vision display panel assembly according to claim 1 wherein said image further comprises optical means for providing a three dimensional optical effect.
13. A one way vision display panel assembly according to claim 12 wherein said optical means includes a lenticular lens.
14. A one way vision display panel assembly according to claim 12 wherein said optical means includes a hologram.
15. A one way vision display panel assembly specially constructed for application onto a window

of a building or a vehicle, said one way vision display panel assembly comprising:

a) a perforated assembly including:

i) a membrane having a front surface and a rear surface;

ii) a light-reflective image applied to said front surface of said membrane;

iii) a light-absorbing layer applied to said rear surface of said membrane;

iv) a protective liner removably adhered to a light-absorbing layer side of said assembly;

b) said perforated assembly permits through-viewing when viewed from a first direction and said light-reflective image is clearly visible when said perforated assembly is viewed from a second direction; and

c) whereby removal of said protective liner permits said assembly to be applied to a window of a building or vehicle.

16. A one way vision display panel assembly according to claim 15 wherein said light-absorbing layer comprises a panel.

17. A one way vision display panel assembly according to claim 15 which further comprises a one way mirror layer.

18. A one way vision display panel assembly according to claim 15 wherein said light-absorbing layer functions as a screen for receiving one or more projected images.

19. A one way vision display panel assembly according to claim 15 wherein said light-absorbing layer further comprises optical means for providing a three dimensional optical effect.

20. A one way vision display panel assembly according to claim 19 wherein said optical means includes a lenticular lens.

21. A one way vision display panel assembly according to claim 19 wherein said optical means includes a hologram.

REMARKS

By this preliminary amendment it is proposed that claims 1, 5 and 6 be amended and claims 8-21 be added. Claims 1-21 are now pending in this reissue application.

An explanation of the support in the disclosure of the patent for the amendments to claims 1, 5, and 6 is as follows.

Claims 1, 5, and 6 have been amended to delete reference to all occurrences of the term "pressure sensitive" which precedes the "adhering means" limitation. This amendment is necessary to clarify that dependent claims 6 is narrower in scope than independent claim 1. The specification and granted claim 6 support a broad interpretation of the "adhering means" limitation for removably adhering the protective liner to the transparent panel so that the protective liner can be peeled off to permit application of the transparent panel to a clear substrate. The specification and claims teach that the releasable adhesive bond between the panel assembly and the protective liner and the panel assembly and a clear substrate may be achieved by using a transfer adhesive (see Column 9, lines 1-2) or by selecting a panel material having static cling properties (see Column 8, lines 57-59, and claim 6). While a transfer adhesive is pressure sensitive, static cling materials are not "pressure sensitive". Instead, a material having static cling properties forms a releasable bond with other materials by electrostatic attraction. Accordingly, it is believed that the amendment to claims 1, 5, and 6 are necessary to clarify the relationship between the scope of the claimed invention as defined

in claims 1 and 6.

An explanation of the support in the disclosure of the patent for the added claims 8-21 is as follows.

Support for the "light absorbing adhering means" limitation of claim 8 is found in the specification at Column 6, lines 44-45.

Support for the limitation which reads "said first and second coatings comprises individual panels" of claim 9 is found in the specification at Column 3, lines 17-20.

Support for the "one way mirror layer" limitation of claims 10 and 17 is found in the specification at Column 4, lines 32-42, Column 9, line 60 to Column 10, line 8, and Fig. 10.

Support for the "projected images" limitation of claims 11 and 18 is all found in the specification at Column 4, lines 26-31.

Support for the "optical means" limitation of claims 12 and 19, the "lenticular lens" limitation of claims 13 and 20, and the "hologram" limitation of claims 14 and 20 are all found in the specification at Column 4, lines 49-51.

Support for the perforated assembly with perforated protective liner as recited in claim 15 is found in exterior mount embodiment shown in Fig. 7 and the discussion of the fabrication method for the exterior mount embodiment in the specification at Column 3, lines 56-66 and the alternate embodiment discussed at Column 4, lines 43-48.

Support for the limitation in claim 16 which reads "said light-absorbing layer comprises a panel" is found in the specification at Column 3, lines 48-55.

No new matter has been added.

CONCLUSION

It is believed that the claims remaining in this case are clearly patentable over the references of record in this case, including the references cited by the applicant in the Information Disclosure Statement accompanying this amendment. Favorable action of allowance of all claims is respectfully requested. The Examiner is requested to call undersigned counsel regarding this amendment to clear up any other matters of prosecution which may be necessary for allowance of the case. Undersigned counsel's number is 650-342-4513.

Respectfully submitted,



THOMAS C. FEIX
Reg. No. 34,592

Dated: March 11, 1999

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APPLICATION OF

RODNEY M. SHIELDS

FOR REISSUE LETTERS PATENT OF UNITED STATES PATENT NO. 5,609,983

FOR

IMAGE DISPLAY APPARATUS WITH HOLES FOR OPPOSITE SIDE VIEWING

[54] **IMAGE DISPLAY APPARATUS WITH HOLES
FOR OPPOSITE SIDE VIEWING**

[75] Inventor: **Rodney M. Shields**, Lafayette, Calif.

[73] Assignee: **Creative Minds Foundation, Inc.**,
Wilmington, Del.

[21] Appl. No.: **324,889**

[22] Filed: **Oct. 18, 1994**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No 81,728, Jun. 23, 1993,
abandoned.

[51] Int. Cl.⁶ **B32B 3/24**

[52] U.S. Cl. **428/138**; 428/131; 428/137;
428/195; 428/201; 428/203; 428/204; 428/918;
428/913; 428/38; 428/41.8; 428/42.1; 359/839;
359/594; 359/601; 40/219; 427/243

[58] Field of Search 428/131, 137,
428/195, 201, 203, 204, 918, 913, 38, 138,
41.8, 42.1; 427/243; 359/839, 594, 601;
40/219

[56] **References Cited**

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Primary Examiner—William Watkins

Attorney, Agent, or Firm—Thomas C. Feix

[57]

ABSTRACT

One or more panels define a support for an image layer and a relatively dark layer. Holes extend through the panel and the layer. The holes allow viewing through the panels in one direction without seeing the image, yet the image can be viewed by looking at the panel assembly from the opposite direction. Thus, the image is suitable as an advertising medium as applied to the transparent windows of buildings, vehicles and the like. A person sitting in a building or in a vehicle cannot see the image on a window by looking outwardly through the window. Looking in the opposite direction, from outside to inside the vehicle, a person will see the image through the assembly of panels.

7 Claims, 7 Drawing Sheets

[illegible]

IMAGE DISPLAY APPARATUS WITH HOLES FOR OPPOSITE SIDE VIEWING

CROSS REFERENCES TO RELATED U. S. APPLICATIONS

This is a continuation-in-part of application(s) Ser. No. 08/081,728 filed on Jun. 23, 1993 abandoned.

This application is a continuation in part of co-pending application Ser. No. 08/081,728 filed Jun. 23, 1993 abandoned and entitled "Image Display Apparatus With Holes For Opposite Side Viewing", Rodney Shields, inventor

FIELD OF THE INVENTION

This invention relates to improvements in the display of images of various types for different purposes, such as for advertising purposes and, more particularly, to an assembly of panels having a see-through capability and which are arranged to allow viewing of an image when looking in one direction but are arranged to prevent the viewing of the image when looking in the opposite direction. The control of the way in which the image can be viewed can be achieved by the proper positioning of the panels with respect to each other.

BACKGROUND OF THE INVENTION

in advertising practices, it is desirable to utilize the surfaces of a transparent display medium, such as the interior or exterior surfaces of a window of a building, bus, streetcar, truck and the like, to support films or panels which have images on them to be displayed. Generally, the panels having the displays block any view through the window or surface, be it transparent or otherwise, on which the panel is placed. Thus, on a bus for instance, any panel having an image thereon which is viewable from a location outside the bus will block the view of the person sitting in the bus looking outwardly through a window. This is an objectional feature of images applied to panels and which are secured by adhesive or otherwise to the outer surface of a window. Such image-laden panels are rarely used.

Typically, only refrigeration doors of supermarkets and the like use panels of this type since the panels themselves are transparent and the images on the panels usually are in color. There is no need to have any more than a single panel with an image on it because rarely does a person stand inside a refrigeration cabinet of a supermarket or the like. There is, therefore, no need on the part of the person to look outwardly through the door and past the panel containing the image thereon. It is for this reason, panels with images on only one surface for refrigeration doors and the like have had some success but are of limited success because of the restrictions on the use of such panels.

It is desirable to use such transparent surfaces, such as windows of buildings, buses, streetcars, trucks and the like, as an advertisement medium or billboard support in order to display images of various types in order to maximize the advertising value of the use of such surfaces.

One-way vision display panels of the type which are constructed from plastic film material and which contain a printed image that is visible when viewed from one direction and which appears transparent when viewed from a second, opposite direction are known from the prior art. Such one-way vision display panels are advantageously used in advertising since they may be easily applied to and dis-

played on any smooth transparent surface, such as the windows of buildings, buses, streetcars, trucks and the like.

Published UK Patent Application GB 2 118 096 and U.S. Pat. No. 4,673,609 disclose similar one-way vision display panel assemblies which are fabricated from a plurality of
 5 glued together transparent plastic materials and which include a display image that is disposed at the interface of two transparent panels of the panel assemblies. In each of the above referenced designs the display image is visible
 10 when the panel assembly is viewed from one direction but is not seen when viewed from the opposite direction. In both designs the display image is formed as a pattern of two-color opaque dots which are applied by screen, litho or similar printing process at the panel interface. The opaque dots
 15 appear white or light in color on one side and black on the other. Light incident on the light color side of the panel is scattered and reflected thereby permitting an image formed by the dot pattern to be seen when viewed from this direction. Light incident on the opposite or black side of the
 20 panel is absorbed such that the light transmitted through the transparent portions of panel permit through-viewing in the direction from the black color side to the light color side. When applied to a bus window, the black color side faces the passenger while the light reflective color image side faces the outside.

A disadvantage with such dot pattern display panels as described above is that the visual clarity in the through-viewing direction of the display panel is not very good. The reason for this is that the multiple plastic and intermediate
 30 adhesive layers of the panel assembly cause undesirable light refraction and diffraction resulting in a dim and blurry grey tone when viewing the display panel in the through-viewing direction (i.e. in the direction from the darker side towards the image side).

A second disadvantage with such dot pattern display panels is that they are relatively stiff and inflexible due to their solid panel construction and thus are not suitable for application on surfaces having compound curvature since they will form wrinkles. Another disadvantage is that it
 40 requires an etching or washing process that diminishes color intensity.

It is also known in the art to fabricate a one way vision display panel from a metalized plastic film that is screen
 45 printed on one side and perforated with an ordered pattern of holes. The perforated metalized plastic film is then applied to an exterior surface of a window using either a double sided tape or spray adhesive. The ordered hole pattern, being arranged in straight grid-like columns and rows, provides
 50 only about a 37% open area for light transmission through the display panel. Also, the through-viewing clarity is adversely effected by the presence of glue or tape between the display panel and the window.

Accordingly, there is a definite need in the art for a one
 55 way vision display panel which allows a company to take advantage of the availability of public, transparent surface areas, such as window surfaces of buildings, vehicles and the like, and which overcomes the problems of the prior art

60 SUMMARY OF THE INVENTION

Objects

The primary object of the present invention is to provide
 65 an improved one way vision display panel made up of a number of sandwiched panels which are bonded together and wherein one of the panels has an image which can be

viewed when looking in one direction through the panel assembly but which cannot be observed when looking in the opposite direction through the panel assembly.

Another object of the present invention is to provide a display assembly of the type described wherein the assembly is suitable for mounting on display mediums such as windows, doors and the like having transparent panes or mounting surfaces so that an image can represent advertising materials which can be placed on the panels in a manner such that the view through the assembly of panels can be in one direction to view the advertising materials but such materials are blocked out when looking in the opposite direction

Methods and apparatus which incorporate the features described below and which are effective to function as described above constitute specific objects of this invention.

The present invention is directed to a one way vision display panel assembly comprising a number of stacked panels, including a first panel provided with a light-reflective color image and second panel provided with a light-absorbing dark or black coating. The panels are stacked together before the image is placed on the first panel and the black or dark coating has been placed on the second panel. The panels are perforated with a plurality of through-holes which allow light transmission through the panel assembly. The holes can be placed through the panels either before or after they are assembled. Typically, the holes are formed after the panels have been assembled into the panel assembly.

The holes allow viewing through the panel assembly in one direction without seeing the image, yet the image can be viewed by looking at the panel assembly from the opposite direction.

A one-way vision display panel constructed as a perforated plastic panel assembly having a rear surface provided with a light-absorbing color coating (e.g. a black color coating) and a front surface provided with a light-reflective color image as described herein offers superior optical through-vision properties as compared to the conventional one-way vision display panels of the prior art as mentioned at the outset. The reason for this is that fewer optical losses due to diffraction and refraction are experienced when light is transmitted virtually unobstructed through the holes of the perforated panel assembly as compared to when light is transmitted through the numerous transparent plastic and adhesive layers and adhesive tape of the prior art one-way vision panels.

In accordance with the method aspects of the present invention, the display panel is constructed as a stacked assembly of individual plastic panel layers that are either extruded together, heat laminated together, glued together by intermediate adhesive layers or otherwise bonded together. The panel assembly may be adapted for either exterior or interior mount applications.

For the exterior mount embodiment, the light-reflective image panel and light-absorbing or black layer are bonded to opposite sides of an intermediate white opaque panel. A paper or other protective backing or liner can be adhered by a transfer adhesive layer to the remaining free surface of the light-absorbing layer. The panel assembly is then perforated with a plurality of through holes. The protective paper backing can then be peeled back to expose the underlying adhesive layer whereupon the panel assembly may be applied, sticky or black side down, to the exterior surface of the window. A substantially transparent panel or coating can be provided as a protective covering for the image layer.

For the interior mount embodiment, a transparent panel is coated on one side surface with a light-reflective color coating as a first layer and followed by an opaque (e.g., black) light-absorbing coating as a second layer. A paper or other protective backing or liner can be then adhered by a transfer adhesive layer to the remaining free side surface of the clear plastic panel. The panel assembly is then perforated with a plurality of through-holes. The protective backing can then be peeled back to expose the underlying adhesive layer whereupon the panel assembly may be applied, sticky or clear side down, to the interior surface of the window

The panels of the assembly can be of tough, wear resistant materials, such as a heavy duty plastic sheet such as vinyl. Moreover, simple adhesives can be used for bonding the assembly of panels to windows of buildings, vehicles and the like. Alternatively, the various panels may be laminated together.

Various other combinations or variations of the panels can be used, if desired. For instance, additional transparent or clear plastic panels or coatings may be used as protective covers/coatings for the image and/or light-absorbing panels or layers. Also, one or more of the panels may comprise static cling material for direct adhesion to a window without need for an adhesive layer.

In one embodiment, the panel assembly may include a light-reflective layer which functions as a screen for receiving one or more projected images which can be projected thereon using well known projection techniques including, but not limited to, video, movie and slide projection techniques.

In one embodiment, the panel assembly may include a non-perforated one way mirror layer with the mirror side oriented towards the light reflecting direction, i.e. towards the image layer. The mirror layer provides security in that it prevents vision through the panel assembly in one direction. This embodiment may be used to provide building security. For example, the panel assembly may be placed on the windows of a kiosk or room within a casino or store. In such an environment, the panel assembly may be used to conceal hidden cameras or security personnel on the other side of the window.

In another alternative embodiment, the display panel assembly may comprise a single perforated membrane, preferably flexible plastic sheet material. The membrane is printed on one side with a light-reflective color image and printed or coated on a reverse side with a light-absorbing dark color coating.

In addition, the image layer may provide a three-dimensional effect by using known methods such as lenticular lens processes or hologram processes.

The present invention thus provides one-way viewing of images in a substantially unobstructed manner as a person views outwardly from the interior of the building or the vehicle. This phenomenon can be used for advertising purposes in as much as the surface areas of windows of buildings and vehicles can be utilized for displaying the images without impairing substantially the view of the person inside the building or the vehicle. The present invention can also be used on refrigerator and freezer glass doors in supermarkets.

Advantages

It is an advantageous feature of the present invention to perforate the panel assembly in accordance with a staggered hole pattern.

Another advantage of the invention is that the amount of light transmission and visibility through the panel assembly is increased from about 37% open area of the prior art to about 50% to 70% open area.

Another advantage of the invention is that the staggered hole pattern appears to the human eye as being more random and less discernible thereby enhancing the through-viewing feature of the panel assembly since distracting grid-like patterns are not readily detectible. Also, by eliminating the ordered vertical and horizontal lines of a conventional straight line hole pattern, the eye is less distracted when viewing the light-reflective color image side of the panel assembly, especially in situations where the color image itself contains straight lines which are coincident with the ordered rows and columns of the hole pattern.

Still another advantage of the invention is the resultant increase in the thickness of the web or bar portions disposed between the staggered holes. This provides increased tensile strength and improved resistance against shear. Thus, the panel assembly of the present invention can be installed on and removed from a window or other surface more easily without tearing than is currently possible with the one way vision display panel designs of the prior art.

Yet another advantage of the invention is that the perforated panel assembly is much more flexible than prior art display panel designs thereby enabling the display panel of the present invention to be stretched over and applied to surfaces having a compound curvature, such as for example a bubble shaped window, without wrinkling.

Other and further objects, advantages and benefits of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings, which by way of illustration, show preferred embodiments of the present invention and the principles thereof and what are now considered to be the best modes contemplated for applying these principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective, exploded view of one embodiment of the one way vision display panel assembly of the present invention;

FIG. 2 is a front elevational view of the one way vision display panel assembly (in assembled form) of the embodiment of FIG. 1;

FIG. 2A is an enlarged view of the encircled region of one of the perforated panel layers shown in FIG. 2 showing the perforations arranged in a staggered hole pattern;

FIG. 2B is a perspective view illustrating how the staggered hole pattern enables the one way vision display panel assembly to conform to a surface having a compound curvature;

FIG. 3 is a side elevational view of the display panel assembly of FIGS. 1 and 2 shown being applied to a vehicle window to illustrate details of use;

FIG. 4 is a perspective view of another embodiment of the display panel assembly of the present invention;

FIG. 5 is a perspective view similar to FIG. 4 but showing another embodiment of the display panel assembly of the present invention with a slightly different orientation of the panels with respect to each other;

FIG. 6 is a fragmentary perspective view, on an enlarged scale, of a single panel with an image layer coated on one face thereof,

FIGS. 6A-6B shows a series of cross-sectional views of one alternate embodiment of the one way vision display panel assembly of the present invention which includes a release liner or backing layer (FIG. 6A) which when peeled-off exposes an underlying transparent static cling panel layer adapted for adhering the display panel assembly to a window (FIG. 6B),

FIGS. 6C-6D shows a series of cross-sectional views of another alternate embodiment of the one way vision display panel assembly of the present invention which includes a release liner or backing layer (FIG. 6C) which, when peeled-off, exposes an underlying transparent adhesive layer adapted for adhering the display panel assembly to a window (FIG. 6D),

FIGS. 7 and 8 are cross-sectional views through other embodiments of the present invention similar to FIGS. 6A-6D but showing the inclusion of a non-perforated transfer adhesive and associated backing or release liner;

FIG. 9 is a cross-sectional view through another embodiment of the invention similar to that shown in FIGS. 6C-6D but showing the adhesive-backed release liner or backing layer on the opposite side surface of the panel assembly; and

FIG. 10 is a cross-sectional view through another embodiment of the invention similar to that shown in FIG. 9 and further including a non-perforated mirror layer.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A one way vision display panel assembly constructed in accordance with one embodiment of the present invention is broadly denoted by the reference numeral 10 in FIGS. 1-4.

The display panel assembly 10 includes a first panel 12, a second panel 14, and a third panel 16. Panels 12, 14 and 16 comprise relatively thin, flexible sheet material including but not limited to transparent or translucent plastic sheet material with poly-vinyl chloride (PVC) sheet material being a preferred material. The panels 12, 14 and 16 are bonded together by some suitable bonding process, such as by heat lamination, co-extrusion, or by an adhesive, and preferably a clear adhesive.

As best seen in FIG. 1, an adhesive layer 18 bonds panels 12 and 14 together, and an adhesive layer 20 bonds panels 14 and 16 together. The panels can be of any shape, such as rectangular, as shown in FIG. 1. However, they can be of circular, hexagonal, square or other shapes as desired.

The panels 12, 14, and 16, when bound together by the adhesive layers 18 and 20, form the composite or panel assembly 10 in which the panel 14 is disposed between panels 12 and 16.

Panel 12 is preferably transparent or clear in the sense that it has no coating thereon which blocks the passage of light through panel 12.

Panel 14 has an image 22 of an object, such as a flower (as shown), which is printed or otherwise applied to one face of panel 14. For purposes of illustration, image 22 is applied to the side facing panel 12. Moreover, the image 22 preferably comprises a coating of colored inks or dyes which reflect incident light in order to create a desired visual impression. The image 22 may be applied by laser inking process, an image transfer process or by a silk screen, litho or similar ink printing process. The transparent panel 12

forms a protective layer or cover for the image 22 on the panel 14. The transparent panel 12 also preferably includes ultra violet (UV) protective properties to help prevent against sun damage to the inks or dyes which form the image 22

In another embodiment, panel 12 comprises a coating.

Panel 16 has an opaque light-absorbing or dark coating 24 thereon, such as a coating of black paint. The black or dark coating 24 covers the entire surface of panel 16

Each of the panels 12, 14 and 16 (and intermediate adhesive layers 18 and 20) of the display panel assembly 10 is perforated with a plurality of holes. As shown in FIG. 2, holes 26 are provided in panel 16, holes 28 are provided in panel 14, and holes 30 are provided in panel 12. Coordinate holes 26, 28 and 30 of the respective panels 12, 14 and 16 are aligned with each other to form continuous light passages or through-holes through the formed display panel assembly 10

There are many different holes in the assembly of panels. For instance, there could be 200-400 holes per square inch of panel space. The size of the holes is preferably on the order of 0.001 inch to 1.0 inch or larger

FIG. 2A is an enlarged view of the encircled region of panel 16 shown in FIG. 2 showing the perforations (in this case holes 26) arranged in a staggered hole pattern. The staggered hole pattern of the present invention offers many advantages including:

- (1) an increase in the amount of light transmission and visibility through the display panel assembly from about 37% open area of the prior art to about 50% to 70% open area;
- (2) a more pleasing psychological impression as compared to the grid-like hole patterns of the prior art as the staggered hole pattern of the present invention appears to the human eye as being more random and less discernible thereby enhancing and facilitating the through-viewing feature of the panel assembly; and
- (3) an increase in the thickness of the web or bar portions disposed between the staggered holes which increases the tensile strength of the panel assembly and improves resistance to shear by eliminating ordered and continuous tear lines.

Another advantage of the staggered hole pattern of the present invention, is that the staggered hole pattern enables the display panel assembly 10 to conform to surfaces of a display medium (e.g. a window) having compound curvature without wrinkling. This is best seen with reference to FIG. 2B.

In accordance with the method of fabrication of the invention, the panels are arranged separately from each other and the image 22 is applied to panel 14 while the opaque light-absorbing coating 24 is applied to panel 16. The panels are then bonded to each other by the various adhesive layers 18 and 20, respectively, to form the assembly 10 as shown in FIG. 2. The perforations or through-holes are preferably made after the various panels have been glued or otherwise laminated together

As one embodiment, the display panel assembly 10 is applied to the outside surface of a window 32 of a bus 34 or other vehicle (see eg. FIG. 3). In this example, the transparent panel 12 is at the outermost side of the display panel assembly 10 and the innermost surface of panel 16 will be secured by an adhesive (not shown) to the exterior surface of window 32.

Alternatively, any or all of the panels 12, 14 and 16 may comprise self-adhesive or static cling film, such as, for

example, poly-vinyl chloride sheet material, such that the completed panel assembly may be removably applied to a surface (i.e. inside or outside surface) of a window 32

To passengers seated inside the bus 34, the display panel assembly 10 appears transparent as the perforations or through-holes permit the transmission of light therethrough without significant reflection. Thus persons inside the bus 34 typically will not notice the presence of the display panel assemblies 10 on the bus windows 32.

A person outside the bus 34, however, will clearly see the image embodied in the image layer 22 when looking at the display panel assemblies 10 on the bus windows 32 as the light incident on the color surface of the image layer 22 will be reflected. The reason for this is that the image layer 22 will be contiguous with a black dark background 24 of panel 16 and the person will not have a perception of looking through the holes 26, 28, and 30 of the panels 12, 14 and 16, respectively, of the display panel assembly 10 because of the prominence of the dark background surrounding the image layer 22. In effect, therefore, the image is seen looking in only one direction, namely in the direction toward panel 16 from panel 12. In such a case, the image is observable and this image can be used for advertising and other purposes.

FIG. 5 shows an alternate embodiment of the three panel assembly 10' wherein the positioning of the transparent panel 12 and the image-coated panel 12 are reversed.

FIGS. 6-10 show a number of alternate embodiments of the present invention.

In FIG. 6, the display panel assembly comprises a single plastic panel or membrane 40 which is opaque black in color. The panel 40 has a light-reflective color coating 22 forming an image layer along one side surface thereof. The black panel 40 is perforated with plural through-holes 42 of some suitable sort. The through-holes 42 extend completely through the black panel 40 and the image coating 22. The through-holes 42 are cylindrical and can be formed either before or after the image coating 22 is applied to the black panel 40. The through-holes 42 permit light to be transmitted through the panel assembly. Since the through-holes 42 extend completely through the entire panel assembly, there are no glue or plastic layers which will contribute to undesirable refraction or diffraction as light is transmitted therethrough resulting in improved optical performance. This is especially beneficial where the display panel assembly is to be adhered to a window, since the additional glass layer of the window compounds the problem of controlling undesirable light refraction and diffraction when looking through both the panel assembly and the window.

FIGS. 6A-6B and 6C-6D illustrate examples of two interior mount embodiments of the display panel assembly of the present invention.

FIG. 6A shows a display panel assembly comprising a single transparent panel 12. The transparent panel 12 has a light-reflective color image coating or layer 22 applied to or printed on one side surface thereof followed by an opaque light-absorbing color coating) or layer 24 (e.g. black paint). The transparent layer 12 can comprise a static cling material layer. A peel-off liner or backing 46 can be laminated or otherwise applied to layer 12 as shown. As before, the entire assembly is perforated with through-holes 42. FIG. 6B shows the embodiment of FIG. 6A with the peel-off liner 46 removed and the assembly mounted to a window 32.

FIG. 6C shows a display panel assembly comprising a single transparent panel 12 similar to the embodiment of FIGS. 6A-6B. As before, the panel 12 has a light-reflective color image coating or layer 22 applied to one side surface (i.e. the right side thereof) followed by an opaque light-

absorbing color coating or layer 24. A transfer adhesive 48 and peel-off liner (e.g. a paper backing) 50 are applied to the remaining free side surface (in this case the left side surface) of the transparent panel 12. The entire assembly is perforated with through-holes 42. FIG. 6D shows the embodiment of FIG. 6C with the peel-off liner 50 removed and the assembly mounted to a window 32.

In the two interior mount embodiments of FIGS. 6A-6B and 6C-6D, the image contained in the image coating or layer 22 is visible when the display panel assembly is viewed from outside the window 32 in a direction through the window 32 and transparent panel 12 towards the image coating or layer 22. The display panel assembly appears transparent when viewed from the opposite direction (i.e. from inside the window. That is, a person on the right side of the panel assembly may see through the panel assembly with virtually no noticeable obstruction.

In addition, a non-perforated backing layer (not shown) may be applied to the perforated backing layers 46 and 50 as shown in the embodiments of FIGS. 6A & 6C to facilitate handling of the panel assembly during fabrication of the panel assembly.

FIG. 7 shows an example of an exterior mount embodiment comprising an opaque white panel 40 having opposed flat faces with an image coating 22 on one face and an opaque light-absorbing color coating 24 on the opposite face. Coating 24 may also comprise a light-absorbing material layer. As shown in FIG. 7, an optional transfer adhesive layer 52 and non perforated peel-off protective liner 54 may be applied to an exposed side surface of the assembly in this case the light-absorbing color coating or layer 24). The protective liner 54 facilitates handling of the assembly before it is applied to a display medium (eg. a window).

It is important to note that when the protective liner 54 is removed, those portions of the adhesive layer 52 which overlie the through-holes 42 are also carried away along with the liner 54 so that the clarity of vision through the display panel assembly in the through-viewing direction (i.e. from right to left) is not impaired.

FIG. 8 shows a view similar to FIG. 7 but showing the through-holes 42 in the assembly with the image layer 22 being on the outer face of the light-absorbing or darkened layer 24. In this embodiment, the panel 12 is preferably transparent.

In all cases with respect to the embodiments shown in FIGS. 6-8, a person looking in the through-viewing direction (i.e. from right to left) will not see the image on the image coating or layer 22 but will see the field of view to the left of the assembly by looking through the through-holes 42. On the other hand, a person looking from left to right in each of the embodiments illustrated in FIGS. 6-8, will view the image on the image coating or layer 22.

FIG. 9 shows another embodiment of the invention which is adapted for exterior mount applications and which includes a outer transparent protective layer 52 provided to the image coating 22. The outer transparent layer 52 preferably has ultra violet (UV) protective properties to protect the inks and dyes of the image coating 22 from color degradation due to prolonged exposure to sunlight.

FIG. 10 shows another embodiment of the invention similar to that shown in FIG. 9 but which includes a non-perforated one way mirror layer 56. In this embodiment, the mirror side of the one way mirror layer 56 is oriented towards the light reflecting direction, i.e. towards the image coating 22. The mirror layer 56 provides security in that it prevents vision through the display panel assembly in one direction. This embodiment may be used to provide building

security such as by placement on the windows of a kiosk or room within a casino or store. In such an environment, the display panel assembly may be used to shield from public view hidden cameras or security personnel which are monitoring the events that occur within the casino or store. Alternatively, the one way mirror layer 56 can also be incorporated within other panel assembly embodiments such as those disclosed herein as desired.

It should be understood that various modifications within the scope of this invention can be made by one of ordinary skill in the art without departing from the spirit thereof. We therefore wish my invention to be defined by the scope of the appended claims as broadly as the prior art will permit, and in view of the specification if need be.

What is claimed is:

1. A one way vision display panel assembly specially constructed for [pressure sensitive] application onto a window of a building or vehicle, said one way vision display panel assembly comprising:

- a) a perforated panel assembly including:
 - i) a perforated transparent panel formed of a flexible plastic sheet material having a front surface and a rear surface;
 - ii) a perforated protective liner;
 - iii) [pressure sensitive] adhering means disposed between said front surface of said perforated transparent panel and said perforated protective liner for removably adhering said perforated transparent panel to said perforated protective liner so that said perforated protective liner can be peeled off from said perforated transparent panel to permit [pressure sensitive] application of said perforated transparent panel to a clear substrate;
- b) said rear surface of said perforated transparent panel having applied thereon a first coating of light-reflective color bearing an image followed by a second coating of an opaque color sufficiently dark for absorbing light, wherein:
 - i) said perforated panel assembly appears substantially transparent when viewed from a first direction;
 - ii) said image is clearly visible when said perforated panel assembly is viewed from a second, opposite direction; and
- c) a non perforated backing layer removably attached to said perforated protective liner, wherein said non perforated backing layer being effective to facilitate handling of said perforated panel assembly.

2. A one way vision display panel assembly according to claim 1 which includes a non perforated mirror film layer disposed between said perforated protective liner and said non perforated backing layer.

3. A one way vision display panel assembly according to claim 1 wherein said non perforated backing layer comprises mirror film material.

4. A one way vision display panel assembly according to claim 1 wherein:

- a) the perforated panel assembly is provided with through-holes of a substantially uniform hole size in a range of about 0.001" to 1.0"; and
- b) said through-holes are arranged in a staggered hole pattern to provide an open area in a range of about 40% to 70% and to permit the perforated panel assembly to conform to compound curved surfaces of a clear substrate without wrinkling.

5. A one way vision display panel assembly according to claim 1 wherein said [pressure sensitive] adhering means

comprises static cling properties provided to said perforated transparent panel.

6. A one way vision display panel assembly according to claim 1 wherein said (pressure sensitive) adhering means comprises a layer of perforated transfer adhesive material.

12

7. A one way vision display panel assembly according to claim 1 wherein said perforated transparent panel has ultra violet (UV) protective properties.

* * * * *

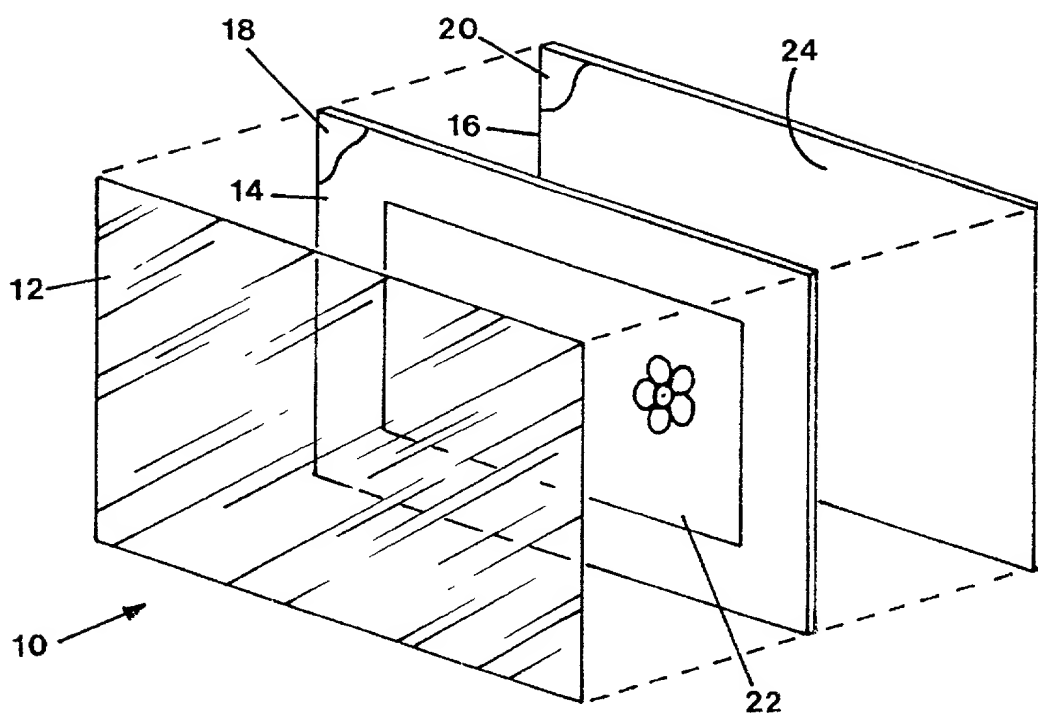


FIG. 1

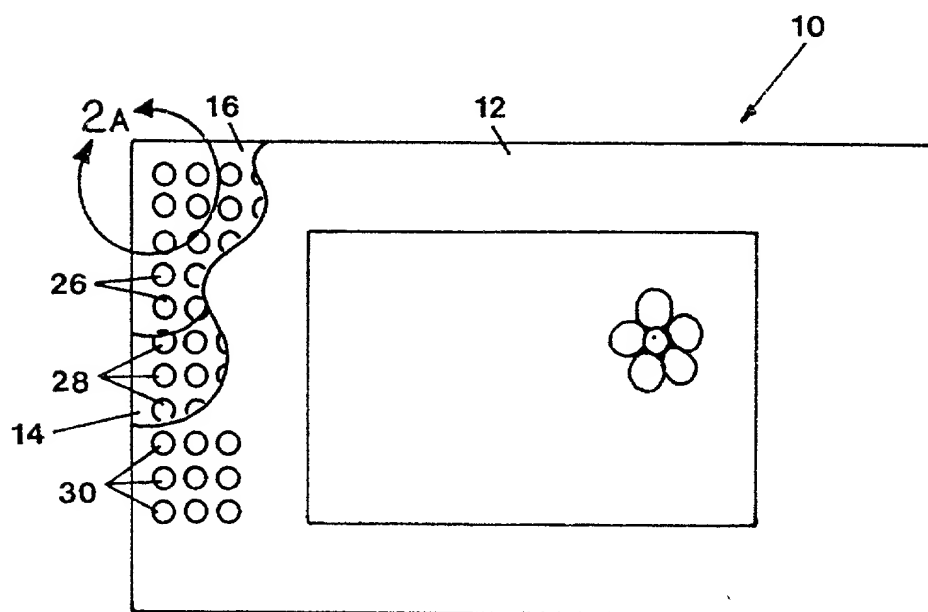


FIG. 2

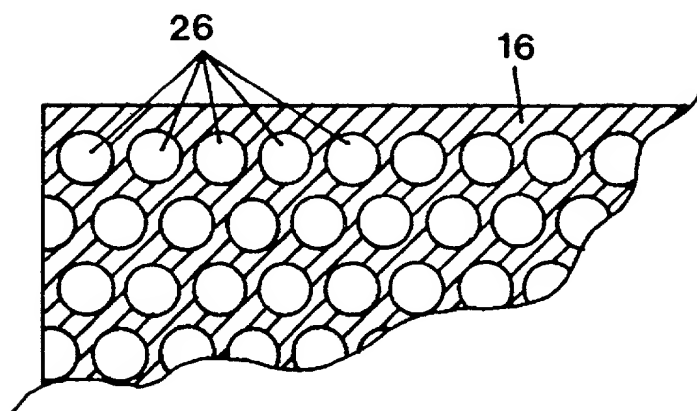


FIG. 2A

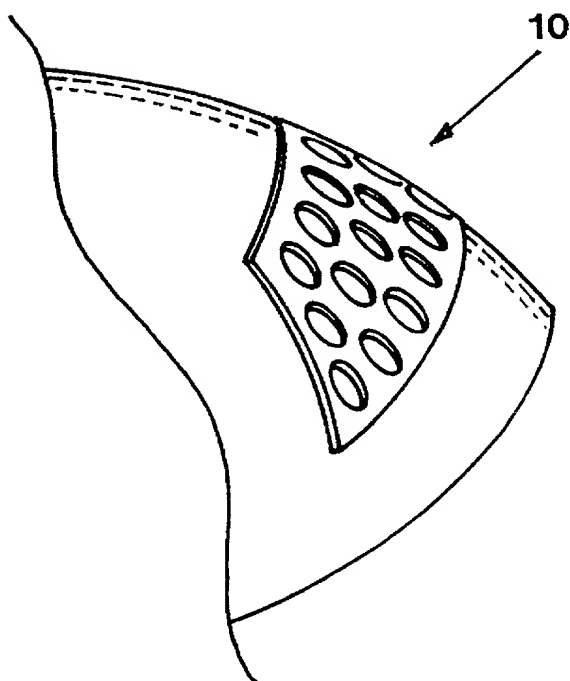


FIG. 2B

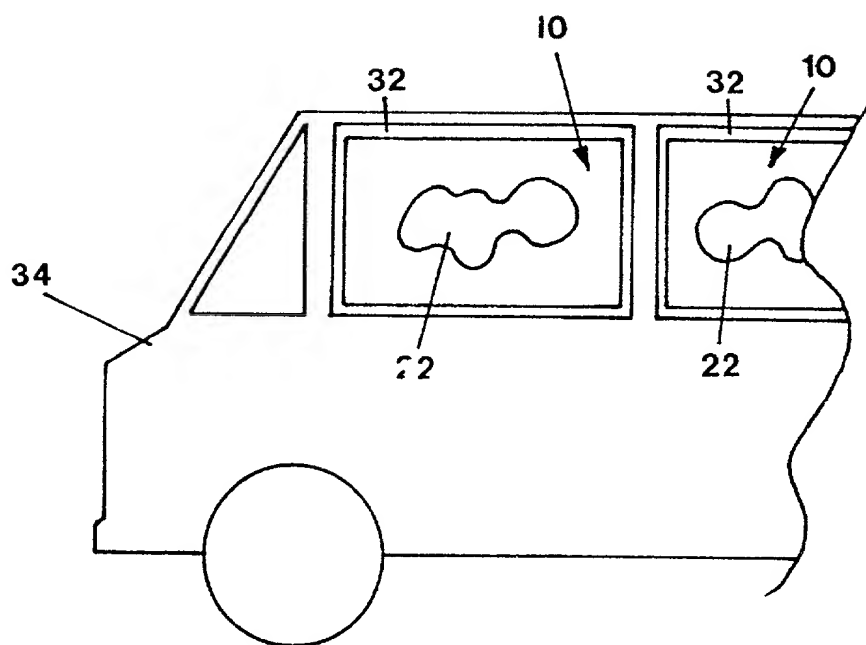


FIG. 3

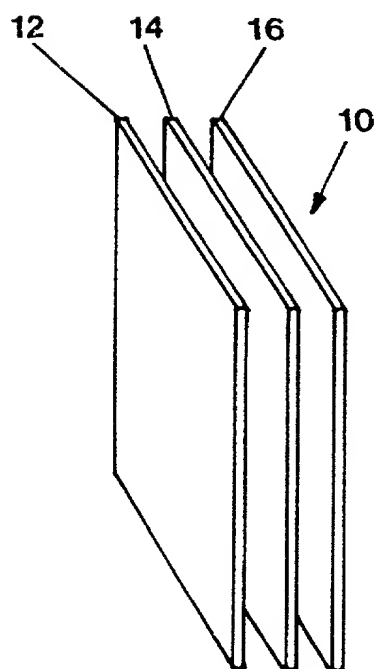


FIG. 4

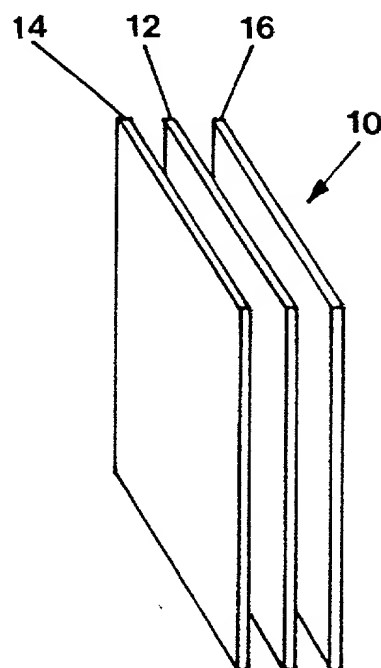


FIG. 5

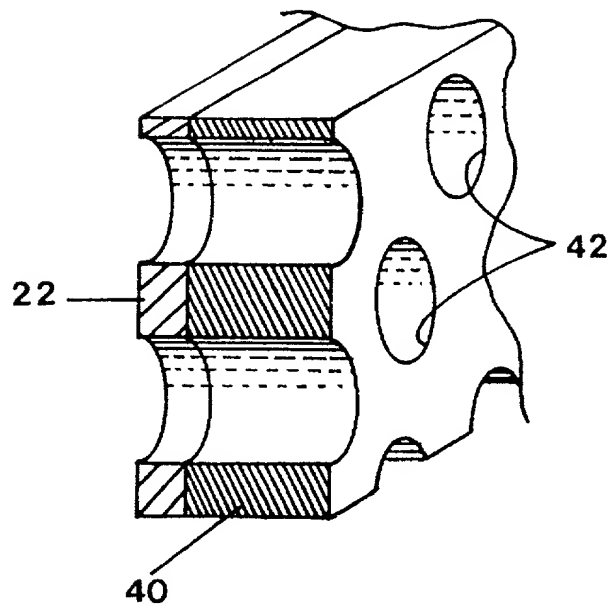


FIG. 6

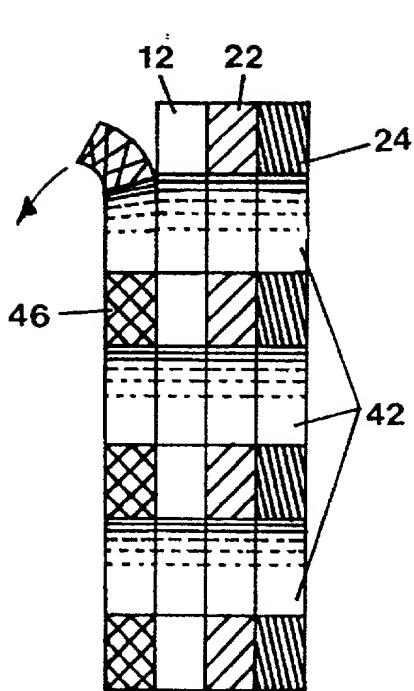


FIG. 6A

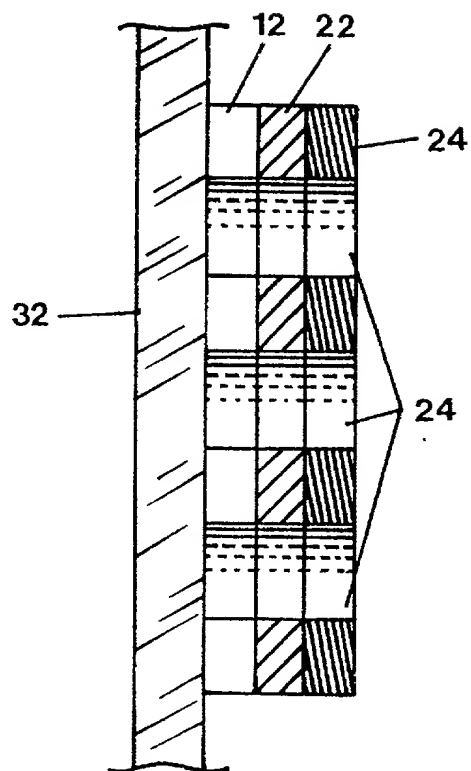


FIG. 6B

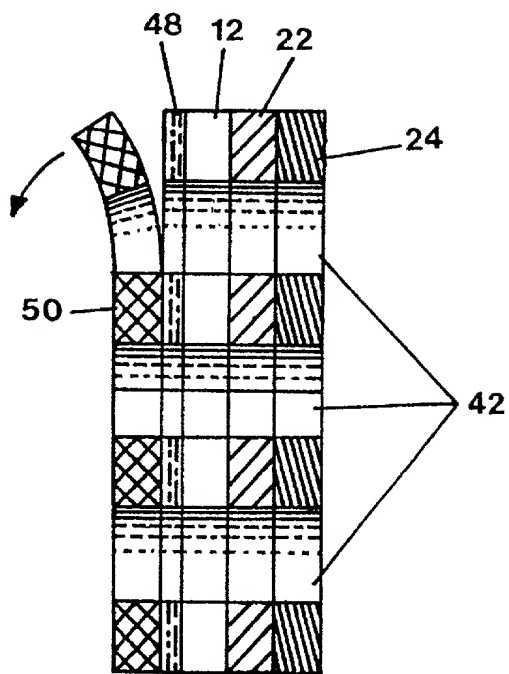


FIG. 6c

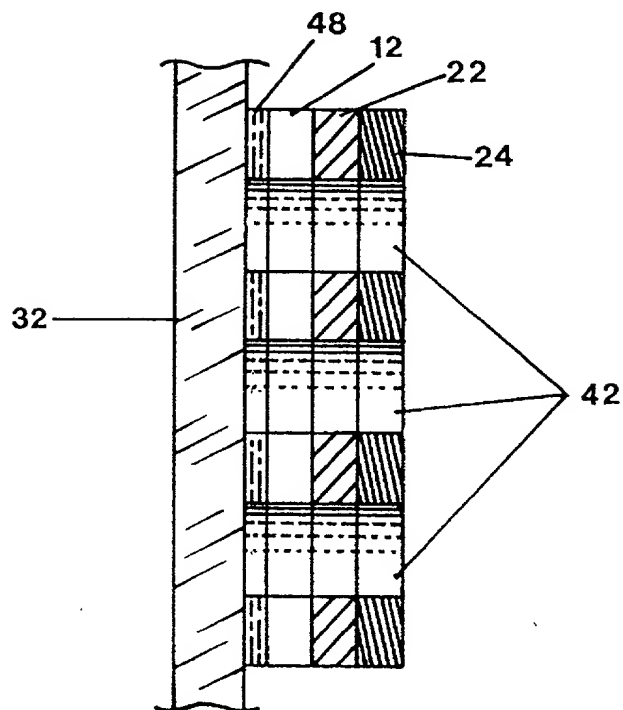


FIG. 6d

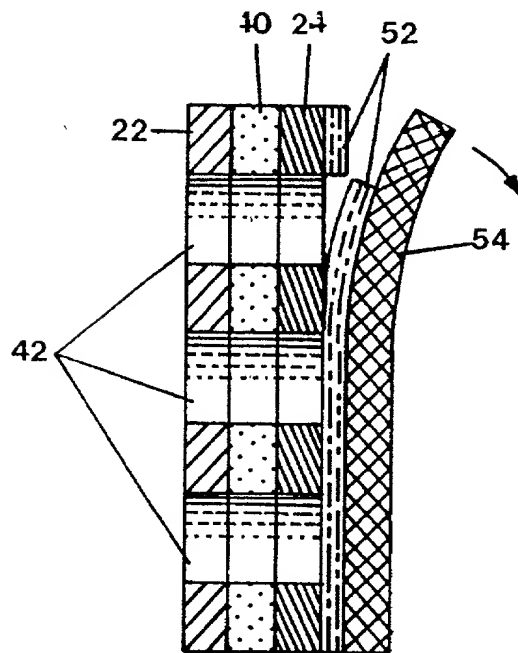


FIG. 7

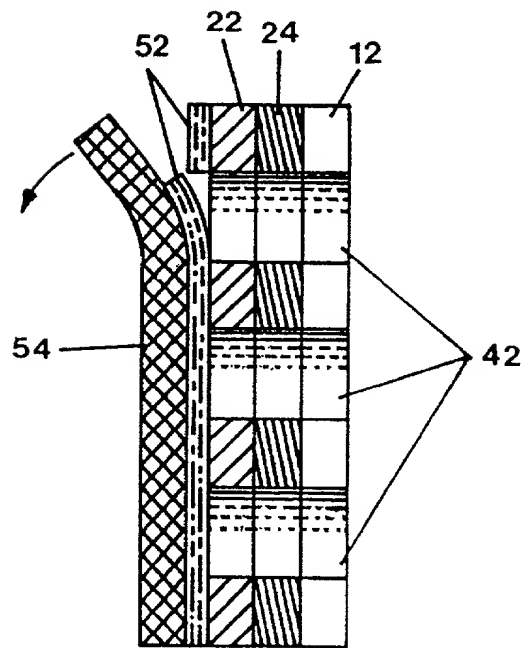


FIG. 8

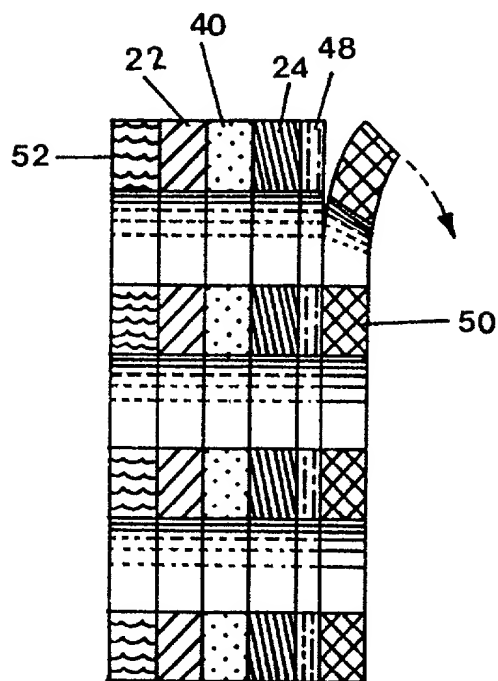


FIG. 9

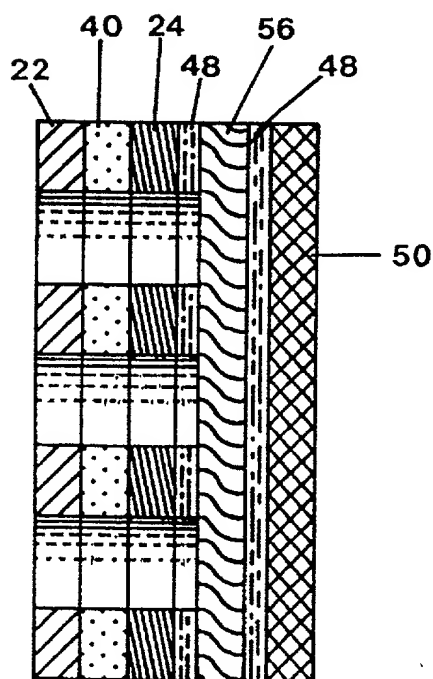


FIG. 10

**REISSUE APPLICATION BY THE INVENTOR, OFFER TO SURRENDER
(37 C.F.R. § 1.178)**

To the Assistant Commissioner for Patents:

1. The undersigned applicant of the accompanying reissue application for the reissue of letters patent for the improvement in Image Display Apparatus With Holes For Opposite Side Patent number 5,609,938 granted to him/her on March 11, 1997, of which Viewing

☐ he/she is now sole owner,

☒ Creative Minds Foundation

is now sole owner by assignment, and on whose behalf and with whose assent the accompanying application is made,

☒ The "ASSENT BY THE ASSIGNEE" to this reissue application is attached.

Date: _____

Signature(s)

Rodney M. Shields

(type or print name(s))

CERTIFICATION UNDER 37 C.F.R. § 1.10*
(Express Mail label number is mandatory.)
(Express Mail certification is optional.)

I hereby certify that this correspondence and the documents referred to as attached therein are being deposited with the United States Postal Service on this date March 11, 1999, in an envelope as "Express Mail Post Office to Addressee," service under 37 C.F.R. § 1.10, Mailing Label Number EL030176859US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Adam C. Brink

(type or print name of person mailing paper)

Adam C. Brink

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(Reissue Application by the Inventor, Offer to Surrender (37 C.F.R. § 1.178)—Assent of Assignee

[17-2]—page 1 of 2)

**REISSUE APPLICATION DECLARATION AND POWER OF ATTORNEY
(BY INVENTOR(S) OR ASSIGNEE)**

(complete A or B)

A. ☒ DECLARATION BY THE INVENTOR(S)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name, I believe I am the original, first and sole inventor *(if only one name is listed below)* or an original, first and joint inventor *(if plural names are listed below)* of the subject matter that is described and claimed in letters patent number 5,609,938, granted on March 11, 1997, and for which invention I solicit a reissue patent on the invention entitled IMAGE DISPLAY APPARATUS WITH HOLES FOR
OPPOSITE SIDE VIEWING

the specification of which

☒ is attached hereto.

☐ was filed on _____, as reissue application number / and was amended on _____ *(if applicable)*.

☐ I hereby declare that there is no assignee for this application.

NOTE: "Where no assignee exists, applicant should affirmatively state that fact. If the file record is silent as to the existence of an assignee, it will be presumed that no assignee exists." M.P.E.P., 6th ed., rev. 1, § 1410.01.

B. ☐ DECLARATION BY ASSIGNEE

NOTE: The assignee of the entire interest may make the declaration, if the reissue application does not seek to enlarge the scope of the claims of the original patent. 37 C.F.R. § 1.172.

_____, _____
(type or print name of declarant) Title

of _____,
Name of company or legal entity on whose behalf declarant is authorized to sign

declare that I am a citizen of _____ and resident of _____,
_____, that the entire title to letters patent number _____,
for _____,
granted on _____, 19____ to _____
Inventor(s)

is vested in _____
Name of company or legal entity

that I believe said named inventor(s) to be an original, first and sole inventor *(if only one name is listed)* or an original, first and part inventor *(if plural names are listed)* of the subject matter that is described and claimed in the aforesaid letters patent and in the foregoing specification and for which invention I solicit a reissue patent.

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

(37 C.F.R. § 1.175)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

- ☒ In compliance with this duty, there is attached an information disclosure statement in accordance with 37 C.F.R. § 1.98.

PRIORITY CLAIM

NOTE: A "claim" for the benefit of an earlier filing date in a foreign country under 35 U.S.C. 119(a)-(d) must be made in a reissue application even though such a claim was made in the application on which the original was granted. However, no additional certified copy of the foreign application is necessary. M.P.E.P., 6th ed., rev. 1, § 1417.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

(complete C or D)

- C. ☒ No such applications have been filed.
D. ☐ Such applications have been filed as follows:

**EARLIEST FOREIGN APPLICATION(S), IF ANY FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION**

Country	Application No.	Date of filing (day, month, year)	Date of issue (day, month, year)	Priority Claimed
				<input type="checkbox"/> YES NO <input type="checkbox"/>
				<input type="checkbox"/> YES NO <input type="checkbox"/>
				<input type="checkbox"/> YES NO <input type="checkbox"/>

**ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION**

BENEFIT OF PROVISIONAL APPLICATION

**STATEMENT OF INOPERATIVENESS
OR INVALIDITY OF ORIGINAL PATENT**

(37 C.F.R. § 1.175)

That I believe the original patent to be

☒ partly

☐ wholly

inoperative or invalid by reason of (37 C.F.R. § 1.175(a)(1)):

(check all items that may apply)

☐ a defective specification

☐ a defective drawing

☒ the patentee claiming more or less than the patentee had a right to claim in the patent.

NOTE: At least one error must be relied upon as the basis for the reissue. 37 C.F.R. § 1.175(a)(1).

That the error listed above, which are being corrected, up to the time of the filing of this reissue declaration arose without any deceptive intention on the part of the applicant. (37 C.F.R. § 1.175(a)(2).

NOTE: For any error corrected not covered by this declaration applicant must submit, before allowance, a supplemental declaration stating that every such error arose without any deceptive intention on the part of the applicant. 37 C.F.R. § 1.175(b)(1).

☐ Corroborating affidavits or declarations of others accompany this declaration.

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

Thomas C. Feix
Reg. No. 34,592

Donald C. Feix
Reg. No. 19,328

(check the following item, if applicable)

- ☐ I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO

☒ Address

Thomas C. Feix
Feix & Feix
241 North San Mateo Drive
San Mateo, CA 94401

☐ Customer Number _____

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

Thomas C. Feix
(650) 342-4513

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature(s)

☒ **BY THE INVENTOR(S)**

Full name of sole or first inventor Rodney M. Shields

Inventor's signature _____

Date _____ Country of Citizenship US

Residence _____

Post Office Address 3142 Sweetbriar Court
Lafayette, CA 94549

Full name of second joint inventor, if any _____

Inventor's signature _____

Date _____ Country of Citizenship _____

Residence _____

Post Office Address _____

☐ **BY ASSIGNEE OR PERSON AUTHORIZED TO SIGN ON BEHALF OF ASSIGNEE**

NOTE: Even though inventor(s) do not sign, complete above information for inventor(s).

(complete the following, if applicable)

Creative Minds Foundation

(type name of assignee)

2316 Baynard Blvd.

Address of assignee

Wilmington, DE 19802

Title of person authorized to sign on behalf of assignee

☒ Assignment recorded in PTO on June 23, 1993

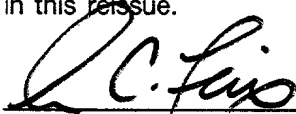
Reel 6648

Frame 0188

☐ A separate ☐ "ASSIGNMENT (DOCUMENT) COVER SHEET"
or ☐ FORM PTO 1595 is submitted herewith along with the assign-
ment _____

STATEMENT BY ASSIGNEE

- ☒ Attached is a "STATEMENT UNDER 37 C.F.R. 3.73(b)," establishing the right of the assignee to take action in this reissue.



Signature of assignee or person authorized to
sign on behalf of assignee

(check proper box(es) for any added page(s) forming a part of this declaration)

- ☐ Signature for third and subsequent joint inventors. Number of pages added. _____
- ☐ Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. Number of pages added. _____
- ☐ Signature for inventor who refuses to sign or cannot be reached by person authorized under 37 C.F.R. § 1.47. Number of pages added. _____
- ☒ Statement of inoperativeness or invalidity of original patent. 37 C.F.R. § 1.175. Number of pages added 2
- ☐ Authorization of attorney(s) to accept and follow instructions from representative.
- ☐ Corroborating statements of others.

**STATEMENT OF INOPERATIVENESS OR INVALIDITY
OF ORIGINAL PATENT 37 C.F.R. § 1.175)**

Granted claims 1, 5, and 6 of U.S. Letters Patent No. 5,609,938 (hereinafter the '938 patent) contain a error that occurred without deceptive intent that renders the '938 patent partially inoperative as a legal document by reason of my claiming less than I had a right to claim.

Specifically, claim 1, subparagraph a) iii) recites a "pressure sensitive adhering means" for removably adhering the perforated transparent panel to a perforated protective liner to permit pressure sensitive application of the perforated transparent panel to a clear substrate. I believe that the term "pressure sensitive" which precedes the "adhering means" limitation unduly restricts the scope of claim 1. The specification teaches that the releasable bond between the panel assembly and the protective liner and the panel assembly and a clear substrate may be achieved by using a transfer adhesive (see Column 9, lines 1-2) or by selecting a panel material having static cling properties (see Column 8, lines 57-59, and claim 6). While a transfer adhesive is pressure sensitive, static cling materials are not, by definition, "pressure sensitive". Instead, a material with static cling properties forms a releasable bond with other materials by electrostatic attraction. Granted claim 6 further defines the "pressure sensitive adhering means" as a material which comprises static cling properties. I understand that under the doctrine of "claim differentiation", dependent claims can be used to exemplify the breadth of the claim(s) from which they depend. Granted claim 6 is clearly at odds with granted claim 1. Claims 1, 5, and 6 have been amended to delete reference to all occurrences of the term "pressure sensitive" which precedes the "adhering means" limitation. This amendment is necessary to clarify that dependent claims 6 is narrower in scope that independent claim 1.

important features of my invention were not claimed. I understand that dependent claims are important and can be used to secure specific coverage that protects particular features of a commercial embodiment in the event that subsequently discovered prior art may invalidate any of the independent claims. The inclusion of dependent claims that cover the many important features of my invention is critical as a hedge against litigation. Accordingly, this reissue application is also being filed to add several dependent claims that capture important features that are presently unclaimed.

The granted claims of the '938 patent are directed to an interior mount panel assembly. However, the '938 patent also contains disclosure directed to an exterior mount panel assembly. Accordingly, a second error of claiming less than I had a right to claim in the '938 patent involves not including claims directed to this exterior mount embodiment. Claims 15 to 21 adding by the preliminary amendment submitted herewith are directed to the exterior mount embodiment. Accordingly, this reissue application is also being filed to add an independent claim and several dependent claims that capture an important embodiment and features of that embodiment that are presently unclaimed.

No new matter has been added to the '938 patent.

Mar-10-99 09:20A FEIX AND FEIX

1-415-342-4683

P.02

Practitioner's Docket No. TF-2018-03-RE**PATENT****ASSENT BY ASSIGNEE FOR FILING OF REISSUE APPLICATION**

NOTE: The written assent of all assignees, if any, owning an undivided interest in the original patent must be included in the application for reissue. 37 C.F.R. 1.172(a).

This is part of the application for a reissue patent filed herewith based on the original patent identified as follows:

Rodney M. Shields
Name of Patentee

5,609,983
Patent Number

March 11, 1997
Date Patent Issued

IMAGE DISPLAY APPARATUS WITH HOLES FOR OPPOSITE SIDE VIEWING
Title of Invention


I am an assignee owning

- ☒ an undivided interest to the above original patent.
☐ a _____% (per cent) interest in the above original patent.

I assent to the accompanying application for reissue.

Attached is a "Statement under 37 C.F.R. § 3.73(b) — Establishing Right of Assignee to Take Action."

Creative Minds Foundation
Name of assignee


Signature of person signing for assignee

Date:

3/10/99

Greg Ross, President
(type or print name and title of person signing for assignee)

Practitioner's Docket No. TF-2018-03-RE

PATENT

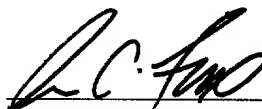
**REQUEST FOR TRANSFER OF DRAWINGS FROM ORIGINAL PATENT
TO REISSUE APPLICATION**

Please transfer the drawings from original patent, 5,609,938, filed on
Oct. 18, 1994, for the invention entitled Image Display Apparatus
With Holes For Opposite Side Viewing

to the reissue application, the specification of which:

☒ is attached hereto.

☐ was filed on _____, as reissue application num-
ber /



Signature of practitioner

Date:

Thomas C. Feix

(type or print name of practitioner)

Reg. No.: 34,592

241 North San Mateo Drive

P.O. Address

Tel. No. (650) 342-4513

Customer No.:

San Mateo, CA 94401

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Rodney M. Shields

Application No.: / Group No.:

Filed For: IMAGE DISPLAY APPARATUS WITH HOLES FOR OPPOSITE SIDE VIEWING

For: Examiner:

5,609,938Issue Date: March 11, 1997

Patent*:

Issue Date: _____

Reexamination No.:

Issue Date: _____

Reissue:

*NOTE: Insert name(s) of inventor(s) and title for patent.

Assistant Commissioner for Patents
Washington, D.C. 20231STATEMENT UNDER 37 C.F.R. § 3.73(b)—
ESTABLISHING RIGHT OF ASSIGNEE TO TAKE ACTION

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*
(When using Express Mail, the Express Mail label number is mandatory;
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING☒ deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

37 C.F.R. § 1.8(a)

37 C.F.R. § 1.10*

☐ with sufficient postage as first class mail.☒ as "Express Mail Post Office to Addressee"
Mailing Label No. E403017685905 (mandatory)**TRANSMISSION**☐ transmitted by facsimile to the Patent and Trademark Office.

Signature

Date: March 11, 1997

(type or print name of person certifying)

***WARNING:** Each paper or fee filed by Express Mail **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b)."Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

NOTE: 37 CFR 3.73(b) states: "When an assignee seeks to take action in a matter before the Office with respect to a patent application, . . . , patent, registration, or reexamination proceeding, the assignee must establish its ownership of the property to the satisfaction of the Commissioner. Ownership is established by submitting to the Office, in the Office file related to the matter in which action is sought to be taken, documentary evidence of a chain of title from the original owner to the assignee (e.g., copy of an executed assignment submitted for recording) or by specifying (e.g., reel and frame number) where such evidence is recorded in the Office. The submission establishing ownership must be signed by a party authorized to act on behalf of the assignee. Documents submitted to establish ownership may be required to be recorded as a condition to permitting the assignee to take action in a matter pending before the Office."

NOTE: "Section 3.73(b) is amended to remove the sentence requiring an assignee to specifically state that the evidentiary documents have been reviewed and to certify that title is in the assignee seeking to take action. The sentence is deemed to be unnecessary in view of the amendment to §§ 1.4(d) and 10.18." Notice of Oct. 10, 1997, 62 Fed. Reg. 53,131, at 53,174.

1. The assignee(s) of the entire right, title and interest hereby seek(s) to take action in the PTO in this matter.

IDENTIFICATION OF ASSIGNEE

2. Creative Minds Foundation

Name of assignee

A Massachusetts Corporation

Type of assignee, e.g., corporation, partnership, university, government agency, etc.

PERSON AUTHORIZED TO SIGN

3. Greg Ross

(type name of person authorized to sign on behalf of assignee)

Title of person authorized to sign

NOTE: The Notice of April 30, 1993 (1150 O.G. 62-64) points out:

"The statement under 37 CFR 3.73(b) may be signed on behalf of the assignee in the following two manners if the assignee is an organization (e.g., corporation, partnership, university, government agency, etc.).

"(1) The statement may be signed by a person in the organization having apparent authority to sign on behalf of the organization. An officer (president, vice-president, secretary, or treasurer) is presumed to have authority to sign on behalf of the organization. The signature of the chairman of the board of directors is acceptable, but not the signature of an individual director. A person having a title (manager, director, administrator, general counsel) that does not clearly set forth that person as an officer of the assignee is not presumed to be an officer of the assignee or to have authority to sign the statement on behalf of the assignee. A power of attorney from the inventors in an organization to a practitioner to prosecute a patent application does not make the practitioner an official of an assignee or empower the practitioner to sign the statement on behalf of the assignee.

"(2) The statement may be signed by any person, if the statement includes an averment that the person is empowered to sign the statement on behalf of the assignee and, if not signed by a registered practitioner, the statement must be in oath or declaration form. Where a statement does not include such an averment, and the person signing does not hold a position in the organization that would give rise to a presumption that the person is empowered to sign the statement on behalf of the assignee, evidence of the person's authority to sign will be required."

[Author's Note: The requirement for an oath or declaration for this statement by a person not a registered practitioner was rescinded by the rules effective December 1, 1997.]

(complete the following, if applicable)

☒ I, the person signing below, state that I am empowered to sign this statement on behalf of the assignee.

BASIS OF ASSIGNEE'S INTEREST

Ownership by the assignee is established as follows:

A.

1. ☒ An assignment from the inventor(s) of the matter identified above, which was recorded in the PTO at
Reel 6648, Frame 0188.
2. ☐ An assignment (document) separately being submitted for recordal herewith.

AND/OR

- B.** ☐ A chain of title from the inventor(s) to the current assignee as shown below:

1. From: _____
Name of inventor(s)

To: _____

Recorded in PTO: Reel _____, Frame _____

2. From: _____
Name of inventor(s) or assignee

To: _____

Recorded in PTO: Reel _____, Frame _____

3. From: _____
Name of inventor(s) or assignee

To: _____

Recorded in PTO: Reel _____, Frame _____

(check item below, and add details, if applicable)

- ☐ Additional documents in the chain of title are listed in the attached Supplemental Sheet.

COPIES OF DOCUMENTS IN CHAIN OF TITLE

(complete this item, if copies are being sent)

- ☒ Copies of the assignment(s) or other document(s) in the chain of title are attached as follows:

<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	
<input type="checkbox"/> B	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

(Signature of authorized person)

(type or print name of authorized person)

Title of authorized person



SIGNATURE OF PRACTITIONER

Thomas C. Feix

(type or print name of practitioner)

241 North San Mateo, CA 94401

P.O. Address

San Mateo, CA 94401

Reg. No.: 34,592

Tel. No.: (650) 342-4513

Customer No.: